

B3 Sub 1
Concl'd
~~isolation trenches, said annular diffused region having only one layer of material laid on top of said annular diffused region.~~

REMARKS

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Hiramoto et al., (U.S. Patent No. 5,661,329). Claims 2-10 were rejected as being unpatentable under 35 U.S.C. §103(a) as being unpatentable over Hiramoto et al. in view of Nii et al., (U.S. Patent No. 5,933,719). Claim 1 provides that the annular diffused region, has only one layer of material laid on top of it. In the Office Action, the Examiner alleges that the area of element 2 between annular isolation trenches 7 and 8 in Hiramoto et al. is equivalent to the annular diffused region of claim 1, (Office Action, paragraph 1). In contrast, however, to claim 1, the area of element 2 in Hiramoto et al., between annular isolation trenches 7 and 8 has three layers of material on top of it, epitaxial layer 3, field insulating film 10, and inter-layer insulating film 16, (column 3, lines 37, 55; column 4, lines 13-14, Fig. 2).

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

In the Office Action Summary, it was indicated that Information Disclosure Statement (PTO-1449), paper no. 3, was attached, but Applicant received no such documents. It is respectfully requested that the promised document be sent along with the next Office Action.

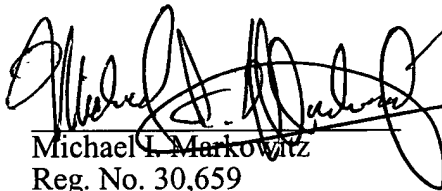
CLOSING

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that independent claim 1 is in condition for allowance, as well as those claims dependent therefrom. Passage of this case to allowance is earnestly solicited.

However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, not fully covered by an enclosed check, may be charged on Deposit Account 50-1290.

Respectfully submitted,


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Enclosure: Version With Markings to Show Changes Made

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning on page 14, line 25, and ending on page 15, line 3, has been rewritten as follows:

The extrinsic base region 28, emitter region [36] 26 and collector contact region [26] 32 are provided with a base electrode 34, an emitter electrode 36 and a collector electrode 38, respectively.

The paragraph on page 15, lines 15-19, has been rewritten as follows:

Each of the nMOSFET 14 and the pMOSFET 16 has a known LDD (lightly doped drain) structure and is formed in the device area isolated from the device area for the NPN bipolar transistor 12 by the first and second isolation [trenchs] trenches 20a and 20b.

IN THE CLAIMS

Claim 1 has been rewritten as follows:

1. (Twice Amended) A semiconductor device comprising a silicon substrate, and a bipolar transistor having a collector well having a first conductivity-type, an internal base region having a second conductivity-type and received in said collector well and an emitter region having said first conductivity-type and received in said internal base region, a first annular isolation trench encircling said collector well, a second annular isolation trench encircling said first annular isolation trench, and an annular diffused region having said second conductivity-type disposed between said first annular isolation trench and said

second annular isolation trench while being in contact with said first and second annular isolation [trenches.] trenches, said annular diffused region having only one layer of material laid on top of said annular diffused region.